

grounds of rejection. For the convenience of the Examiner, they are correspondingly considered and respectfully traversed as follows.

Claims 16 and 17 stand rejected under 35 U.S.C. §102(b) as being anticipated by Selph et al. (U.S. Patent No. 4,804,957). Claims 1-5, 8-13, 52-59 and 60-61 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miller (4,368,424) in view of Selph et al. (4,804,957) in view of Johnson (4,298,839) and Loy et al. [patent number not given]. Claims 18-22, 25 and 27-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Selph et al. (4,804,957) in view of Miller (4,368,424) and Johnson (4,298,839). Claims 1-2, and 6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Johnson (4,298,839) in view of Miller (4,368,424) and Selph et al. (4,804,957). Claims 1-2, and 6-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Loy et al. (5,966,010) in view of Miller (4,368,424) and Selph et al. (4,804,957). Claims 34, 38-40, 65, 66-67, 69, 74 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Selph et al. (4,804,957) in view of Loy et al. (5,966,010) and Johnson (4,298,839) and Shincovich et al. (5,590,179). Claims 47-48 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miller (4,368,424) in view of Selph et al. (4,804,957) as applied to claims 42-44 and 46 above, and further in view of Loy et al. (5,966,010) and Johnson (4,298,839). Claim 52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miller (4,368,424) in view of Selph et al. (4,804,957) as applied to claims 42-44 and 46 above, and further in view of Shincovich et al. (5,590,179).

1: 35 U.S.C. §112, 2nd PARAGRAPH REJECTIONS

Claims 14-15, 20-21, 23-24, 32-33, 41, 45, 50-51, 63-64, 68, 72, 77-78 stand collectively rejected under 35 U.S.C. §112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the present invention.

It is well established that “[a] claim is sufficiently definite if one skilled in the art would understand the bounds of the claim when read in light of the specification.” *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 1579 (Fed. Cir. 1993). It is respectfully submitted that each of the terms and phrases, which form a basis for the present rejection, would be fully understood by one of ordinary skill in the art upon a review of the originally submitted specification and drawings. In addition, it is with the following additional comments that Applicants respectfully traverse such rejections.

In claims 14, 24, 33, 50, 63, and 77, the term “nonremovable bridge clip” refers to reference numbers 94 or 96 (or both) of Figure 3. A careful reading of page 7, line 29 through page 8, line 4 and page 21, line 17 through page 22, line 22, will indicate that such a feature (used in conjunction with a opening 90 of Figure 3), can be clearly understood by one of ordinary skill in the art.

As to claim 20, the Examiner states that: “it is unclear whether both **resilient connectors** and the **mating posts and holes** are used for connecting the metrology board to the base plate.”

The “resilient connectors” are not used for connecting the metrology board 140 to the baseplate 14. The term “resilient connectors” refers to connectors 154, 156 and 158 of Figure 5.

A careful reading of page 26, lines 13-26 will indicate that such “resilient connectors” are used to establish electrical connections between metrology circuit board 140 (Figure 4) and spades 60, 62, 64, and 66.

The term “**mating posts**” refers to post 136, 138, 152 and 180 of Figure 5. A careful reading of page 29, lines 29-33 will indicate that such “mating posts” are located on baseplate 14. Without entry of any new matter, an amendment to the specification, as described above, has been requested to further clarify this point.

Likewise, a careful reading of page 25, lines 25-28 will indicate that the metrology circuit board 140 (Figure 4) is provided with a pair of openings (“**holes**”) generally 142 and 144 (Figure 4) for correspondence and receipt in stacked fashion on mating posts 136 and 138 (Figure 5). Also disclosed on page 27, line 30 – page 28, line 2 are two female receptacles 174 and 176. Thus, mating posts 136, 138 pass through holes 142, 144 and are received by female receptacles 174 and 176 respectively, thereby connecting the metrology board 140 to the baseplate 14.

As to claims 23, 32, 41, 45, 68, and 72 the Examiner states that it is unclear that “inner cover” and “outer cover” represent. Such “inner cover” refers to reference number 16 in Figures 2 and 3. Such “outer cover” refers to reference number 10 in Figure 1. Both the “inner cover” and “outer cover” features are described in detail throughout the specification. For example, page 15 line 7 through page 18, line 29 describes both features. One particular preferred aspect of the “outer cover”, transparency, is described on page 16, lines 1-3. In addition, see page 16, lines 13-23 for a description of the “inner cover” features.

Based on the above comments, it is respectfully submitted that the claims fully comply with all pertinent requirements of 35 U.S.C. §112, 2nd paragraph, wherefore such rejections are traversed. Withdrawal of such grounds of rejection and allowance of the claims are earnestly solicited.

3: 35 U.S.C. §102(b) REJECTION

With respect to the 35 U.S.C. §102(b) rejection of claims 16 and 17, Applicants respectfully traverse such grounds of rejection with the following remarks.

Before setting forth a discussion of the prior art applied in the Office Action, it is respectfully submitted that it is well established that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” See Manual of Patent Examining Procedure §2131 p2100-69 (8<sup>th</sup> ed. August 2001). Likewise, controlling case law has frequently addressed rejections under 35 U.S.C. §102. “For a prior art reference to anticipate in terms of 35 U.S.C. Section 102, every element of the claimed invention must be identically shown in a single reference.” Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 677, 7 U.S.P.Q.2d 1315, 1317 (Fed. Cir. 1988; emphasis added). The disclosed elements must be arranged as in the claim under review. *See Lindemann Machinefabrik v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984). If any claim, element, or step is absent from the reference that is being relied upon, there is no anticipation. Kloster Speedsteel AB v. Crucible, Inc., 793 F.2d 1565, 230 U.S.P.Q. 81 (Fed. Cir. 1986; emphasis added).

Independent claim 16 and dependent claim 17 encompass certain common aspects that distinguish them from the cited reference. In such regard, it is respectfully submitted that the reference, Selph, merely serves to demonstrate the patentability of Applicant's claimed invention. Specifically, Selph fails to adequately disclose every element of the claimed invention and as such cannot serve at law as an anticipating reference to the present invention under 35 U.S.C. §102.

As indicated on page 1 of the Applicant's specification, metrology is "the science of measurement". In claims 16 and 17, the phrase "metrology board" refers to reference number 140, which is clearly shown in Figures 4, 7, 8, 9, and 11. In addition, the phrase "circuit board" refers to reference number 162, which is clearly shown in Figure 4. The following is a general description of the Applicant's "metrology board" and "circuit board":

Such embodiment may further include a separate metrology board and a higher level function board. Such metrology board may be a standard or basic device for kiloWatt hour data while the higher level function board may permit custom design or "personality" inclusion of features for an electricity meter per a given customer's design criteria. For example, a standard device for kiloWatt hour sensing may include a transducer with three inputs (current, voltage, and phase) and a simple pulse train output. [Original Specification, Page 10, L22-30]

The Applicant's "metrology board" is described in more detail on pages 25-26. The Applicant's "circuit board" is described in more detail on page 26, lines 27-34. In particular, the Applicant's "circuit board" is "a second or optional higher level function circuit board . . . [that provides] a variety of alternative functions . . . for providing "personality" or customization of the entire device 12 to meet the needs of a particular customer."

While Selph does teach a utility meter designed that includes both a Selph circuit board (68), and a Selph processor/display board (70), the Examiner has failed to show that such Selph teachings disclose or make obvious the Applicant's claimed technology. In particular, with respect to independent claim 16 and dependent claim 17, it is respectfully submitted that the proposed reference, Selph, fails to disclose a circuit board as specified in the claims.

A careful reading Selph, C6, L63-68, will indicate that the circuit board 68 is the current sensor board and board 70 is the processor board. It is respectfully submitted that the Examiner has failed to show where either Selph circuit board (68) or Selph circuit board (70) provide "higher level functions" as the Applicant's discloses and claims in claims 16 and 17.

Based upon such an interpretation, it is respectfully submitted that Selph fails to disclose "every element" of the claimed invention and thus cannot at law serve as an anticipatory reference to any of claims 16 and 17. It is, therefore, believed that such claims are presently in condition for allowance and acknowledgement of such is earnestly solicited.

#### 35 U.S.C. §103(a) - Case Law

Before setting forth a discussion of the prior art applied in the Office Action, it is respectfully submitted that controlling case law has frequently addressed rejections under §103.

#### 35 U.S.C. §103 - Case Law

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined only if there is some suggestion or

incentive to do so. (emphasis original) *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). The task of the Patent Office is essentially a burden of proof not just to show prior patents with selected elements similar to respective parts of a claimed combination, but to show teachings to support obviously combining the elements in the manner claimed. The court in *Panduit Corp. v. Dennison Manufacturing* noted the following:

Virtually all inventions are necessarily combinations of old elements. The notion, therefore, that combination claims can be declared invalid merely upon finding similar elements in separate prior patents would necessarily destroy virtually all patents and cannot be the law under the statute, § 103. *Panduit Corp. v. Dennison Manufacturing Co.*, 1 U.S.P.Q. 2d 1593, 1603 (Fed. Cir. 1987; footnotes omitted).

In *In re Deminski*, 230 U.S.P.Q. 313 (Fed. Cir. 1986), the court reversed a Patent Office Board of Appeals decision rejecting claims for obviousness, saying: "There [was] nothing in the prior art references, singly or in combination, 'to suggest the desirability, and thus the obviousness' of the [claimed subject matter]." *Id.* at 315; emphasis original. The court noted that the relied-on reference did not address the technical problem addressed by the claimed invention (and in fact taught away from the Applicant's invention), and stated the well-established principle that "[h]indsight analysis is clearly improper . . ." *Id.* at 316.

In Bausch & Lomb v. Barnes-Hind/Hydrocurve, 230 U.S.P.Q. 416 (Fed. Cir. 1986), the court vacated a district court holding of invalidity for obviousness. In doing so, the district court was criticized for viewing teachings from the prior art in isolation, instead of considering the prior art references in their entirety; for entering the tempting but forbidden zone of hindsight analysis; for failing to view the claimed invention as a whole; and for disregarding express claim limitations. *Id.* at 419, 420.

It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. *Bausch & Lomb, supra*, at 419 (emphasis added).

In *In re Warner*, the court stated:

A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art . . . . It [the Patent Office] may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis . . . . [W]e may not resolve doubts in favor of the Patent Office determination when there are deficiencies in the record as to the necessary factual bases supporting its legal conclusion of obviousness. *In re Warner*, 379 F.2d 1011, , 154 U.S.P.Q. 173, 177, 178 (C.C.P.A. 1967; emphasis original).

### 35 U.S.C. §103(a) - MPEP

The Examiner bears the initial burden of factually supporting any prima facie case of obviousness. If the Examiner does not produce a prima facie case, the Applicants are under no obligation to submit evidence of nonobviousness. MPEP §2142 p2100-121 (8<sup>th</sup> ed. 2001).

To establish a prima facie case of obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there must be a reasonable expectation of success; (3) the prior art reference (or references when combined) must teach or suggest all the claimed limitations.

### 35 U.S.C. §103(a) Rejections

The following analysis of the present rejections is respectfully offered with guidance from the foregoing controlling case law decisions and MPEP procedures.

With respect to the 35 U.S.C. §103(a) rejections, Applicants respectfully traverse such grounds of rejection. By relying on rejection grounds under 35 U.S.C. §103(a) for alleged obviousness, and by various statements throughout the detailed Office Action, the PTO already acknowledges certain important deficiencies of the base references which renders such references inadequate for serving by themselves as a rejection basis for any of the rejected claims. In addition, it is respectfully submitted that the Examiner has failed to show that any of the secondary references cited serve to overcome the faults of the base reference mentioned, and thus, all claims are in condition for allowance.

In each instance where the Examiner makes unsupported factual assertions (numerous instances set forth below by example), Applicants specifically request citation of and reference to a piece of prior art to support the corresponding Examiner allegations of obviousness.

### 5: 35 U.S.C. §103(a) Rejections - Claims 1-5, 8-13, 52-59 and 60-61

Claims 1-5, 8-13, 52-59 and 60-61 stand collectively rejected under 35 U.S.C. §103(a) as being unpatentable over Miller (4,368,424) in view of Selph et al. (4,804,957) in view of Johnson (4,298,839).

Applicant's independent claims 1 and 53 include a "resilient connectors" limitation. The

Examiner rejected claims 1, 52-53, using only the Miller and the following factually unsupported statement: "It would have been obvious for one of ordinary skill in the art to consider that the connectors (23, 24, 29, 30) are resilient." As the court noted in *In re Warner*:

A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art . . . . It [the Patent Office] may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis . . . . [W]e may not resolve doubts in favor of the Patent Office determination when there are deficiencies in the record as to the necessary factual bases supporting its legal conclusion of obviousness. *In re Warner*, 379 F.2d 1011, , 154 U.S.P.Q. 173, 177, 178 (C.C.P.A. 1967; emphasis original).

It is respectfully submitted, therefore, that such rejection fails to establish a *prima facie* case of obviousness.

Even assuming a *prima facie* case of obviousness has been established, based on the following "resilient connectors argument", it is respectfully submitted that the Miller reference does not teach, suggest or make obvious the "resilient connectors" of the Applicant's disclosed and claimed technology.

The Applicants disclose a "metrology board" 140 as a board that carries circuit board components for performing the basic kiloWatt hour data function. [see page 38, Lines 21-24]. The Applicants also disclose and claim "resilient connectors". The term "resilient connectors" refers to connectors 154, 156 and 158 of Figure 5. A careful reading of page 26, lines 13-26 will indicate that such "resilient connectors" are used to establish electrical connections (spring/pressure type connections) between metrology circuit board 140 (Figure 4) and selective of spades 60-66. It will be appreciated that one of ordinary skill in the art would understand that

such resilient connectors may be attached directly to selective of spades 60-66 or any electrically equivalent point in electrical contact with spades 60-66.

Thus, the Applicants disclose a “metrology board” 140 that presses against such “resilient connectors” forming an electrical contact between selective of spades 60-66 and the metrology board 140. [Page 26, L13-26]. Such “resilient connectors” allow the metrology board 140 to be snapped into place and snapped out of place without the need of a tool (such as a soldering iron or screwdriver) to release the connections between the metrology board and the spades.

Therefore, the Applicants’ “resilient connectors” have at least three aspects of interest for the purposes of this argument: (1) they are resilient cantilevered spring connectors, (2) they make electrical contact between a metrology board (140) and selected meter spades (60-66) through direct spring/pressure type contacts, and (3) they allow a metrology board to be installed/removed without the need of a tool to break the connections between the metrology board and the meter spades.

The Examiner states that Miller discloses an energy meter having “a metrology board (61)”. However, as stated in Miller:

A meter frame 61 carried on the front part of the base 56 is provided to carry the measuring parts of the meter 10. The current sensing transducer 12 and voltage sensing transducer 45 are carried on the frame in substantially the same manner that corresponding induction watthour meter electromagnet current and voltage sections are supported thereon. [C7, L44-50]

Thus, Miller component 61 is merely a meter frame for holding the voltage sensors and current sensors, not a metrology board as in the Applicants’ claimed invention.

As disclosed in Miller, an electronic AC electric energy measuring circuit 43 receives the voltage signals and current signals and provides electric energy responsive pulse rage signals (apparently such signals are indicative of power consumption). [Miller, C7, L6]. A plurality of circuit boards (63-66) carries the electronic components of circuit 43 and 51. [Miller, C7, L54]. If Miller discloses a single board, or a combination of boards, with the features consistent with the Applicants' "metrology board", such Miller metrology board(s) would apparently be among boards 63 through 66. It is respectfully submitted, however, that the Examiner has failed to show a single board, or a combination of boards, among boards 63 through 66 that contain or make obvious the features of the Applicants' metrology board.

In addition, the Examiner stated that it would have been obvious for one of ordinary skill in the art to consider that connectors (23,24,29,30) are resilient. Miller discloses socket terminals (23,24,29,30) for mating to blade terminals 32,33,34, and 35. [see Miller C6, L42-44]. However, upon a careful reading of the Miller disclosure, and careful inspection of Miller Figure 2, one should conclude that the connections between a hypothetical Miller metrology board (66) and the Miller voltage/current sensors appear to be made using wires with rigid solder type connections at the hypothetical metrology board (66). Such connections teach away from the Applicants' resilient connectors as using the Miller electrical connection scheme would seem inconsistent with the use of "resilient connectors" that allow a metrology board to snap into place thereby pressing against such connectors to establish electrical connections without the need for screws/solder. Thus, it is respectfully submitted that the Examiner has failed to show where Miller discloses, makes obvious or even suggest the use of resilient connectors.

In addition, the Examiner has not shown that such socket terminals establish direct electrical connections between the meter spades and a metrology board as in the Applicants' disclosed and claimed technology.

Finally, a tool appears to be required to remove such connections in the Miller device, whereas no such tool is required for the Applicants' device. Consequently, it is submitted that such connections teach away from the "resilient connectors" approach of the Applicants' invention.

It is, therefore, respectfully submitted that the use of Miller in view of Selph as a basis for the 35 U.S.C. §103(a) rejection of claims 2-3 and 54-55 is improper.

The Examiner rejected claims 2-3, 54-55, using the Miller in light of Selph stating that it would have been well known to use the mating post and holes of the Applicant's disclosed and claimed technology.

First, claims 2-3 claims 54-55 contain a "resilient connectors" limitation. Based on the "resilient connectors argument" present above, it is respectfully submitted that, for at least this reason, claims 2-3, and 54-55 are in condition for allowance.

Second, based on the following "mating post and holes argument", it is respectfully submitted that Selph does not teach or make obvious the "mating posts and holes" limitation as disclosed and as claimed by the Applicants.

The Applicants disclose at least the follow regarding "mating post and holes" technology:

Still a further general object is to provide a modular meter configuration which makes use of mounting posts and snap fit technology for arranging and securing the components thereof, without requiring any screws or equivalent individual fasteners or securing elements. [see Page 9, Lines 5-10] emphasis added

The Applicants also disclose the following:

Likewise, by the various clamping action support arrangements and snap fit technologies, an entire array of various modular meter configurations (and corresponding methodologies) may be provided without requiring any screws or similar individual connectors or fasteners. [Page 44, L3-8] emphasis added

Thus, the Applicants' technology provides a modular electricity meter permitting the use of certain common modular components in combination with a variety of data output methods. Such various configurations, through the use of tapered posts and corresponding openings in various components, as well as, integrated snap-fit arrangements allows for greater strength and physical stability of the claimed meter, while guaranteeing the proper alignment between component parts for accurate operation of the meter without requiring the use of normal construction methods, such as screws or bolts. Such a snap fit/screwless design provides for an increase in manufacturing efficiency by reducing assembly time and decrease in manufacturing cost by decreasing the parts count of such meter.

In contrast, Selph discloses the following concerning what Selph calls board "standoffs":

Preferably circuit boards 68 and 70 are assembled on base plate 72 by means of bolts 74 and spacers or standoffs 76. The boards may be assembled with their respective foil sides facing one another. [C7, L1-4]

Such "standoffs" 72 and "bolts" 74 can be seen in Figure 3 of Selph. Thus, it seems clear that Selph teaches the use of "standoffs" and "bolts" to secure the meter board. Consequently, Selph actually teaches away from the Applicants' claimed "mating post and holes" feature.

Additionally, as noted above, the Applicants teach and disclose "mating post and holes"

that have a precision alignment feature. Specifically, the Applicants note that metrology board 140 may carry electrical devices such as a Hall cell device. The Applicants note that such Hall cell devices must become properly located relative to the flux path associated with core 128 for maximum accuracy. The Applicants' disclosed and claimed "mating post and holes" feature provide such precision alignment. [see Page 25, L34 – Page 26, L5].

In Selph, Hall effect sensors 84 are mounted on board 68 (see Figure 8). In the disclosed Selph meter, however, precision placement of board 68 does not appear to be a requirement. In addition, Selph neither discloses nor makes obvious such a precision placement feature for standoffs 72.

It is therefore, respectfully submitted that the use of Miller in view of Selph as a basis for the 35 U.S.C. §103(a) rejection of claims 2-3 and 54-55 is improper.

The Examiner rejected claims 4 and 56 stating that it would have been obvious to use weldments.

First, claims 4 and 56 contain a "resilient connectors" limitation and a "mating/mounting post and holes" limitation. Based on the "resilient connectors argument" and the "mating post and holes" argument, is respectfully submitted that the Examiner has not shown where the cited references teach or make obvious such limitations. For at least these reasons, it is respectfully submitted that claims 4 and 56 are in condition for allowance.

Second, based on the following "weldments improper rejection argument", it is respectfully submitted that the Examiner's rejection is improper.

The Examiner rejected claims 4 and 56, using Miller in light of Selph, stating that: "it

would have been further obvious for one of ordinary skill in the art to mount the metrology board to the base plate by using weldments." It appears that such Examiner's rejection is based on speculation and/or reconstruction hindsight. As the court noted in *In re Warner*:

A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art . . . . It [the Patent Office] may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis . . . . [W]e may not resolve doubts in favor of the Patent Office determination when there are deficiencies in the record as to the necessary factual bases supporting its legal conclusion of obviousness. *In re Warner*, 379 F.2d 1011, , 154 U.S.P.Q. 173, 177, 178 (C.C.P.A. 1967; emphasis original).

In addition, the court in *In re Zurko*, 258 F.3d 1379, 1386, 59 U.S.P.Q.2d 1693, 1697 (Fed. Cir. 2001) stated: "in patentability determinations limitations of claimed inventions cannot be met with general conclusions about 'basic knowledge' or 'common sense' to one of ordinary skill in the art, but must be found in concrete evidence of record."

It is respectfully submitted that the Examiner has presented no evidence of record that Applicants' weldments feature would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. It is respectfully submitted, therefore, that in regards to the above described "weldments" rejection, the Examiner has failed to establish a *prima facie case* of obviousness.

The Examiner rejected claims 5 and 57 as being unpatentable over Miller in view of Selph stating that it would have been well known to use a Hall effect sensor.

Claims 5 and 57 contain a "resilient connectors" limitation, a "mating post and holes" limitation and a "weldments" limitation. Based on the "resilient connectors argument", the

“mating post and holes argument”, and the “weldments improper rejection argument” previously presented, it is respectfully submitted that, for at least these reasons, claims 5 and 57 are in condition for allowance.

The Examiner rejected claims 8 and 60 as being unpatentable over Miller stating that it “appears” the meter of Miller would include a chassis.

First, claim 8 and 60 contain a “resilient connectors” limitation and a “mating post and holes” limitation respectfully not found in the cited prior art. Based on the “resilient connectors argument,” and the “mating post and holes argument” previously presented, it is respectfully submitted that, for at least these reasons, claims 8 and 60 are in condition for allowance.

Second, stating that something “appears” to be in a prior art reference does not meet such an evidence standard for establishing a *prima facie* case of obviousness. *In re Zurko*. Therefore, it is respectfully submitted that the Examiner’s factually unsupported statement that it “appears” the meter of Miller would include a chassis fails to support a *prima facie case* of obviousness.

As to claim 9, the Examiner rejected claim 9 stating Miller discloses a meter that includes “another board (66) connected to the metrology board (56) through a fixed connector (long bars through the boards (63,64,65,66).”

First, claim 9 contains a “resilient connectors” limitation and a “mating post and holes” limitation. Based on the “resilient connectors argument” and the “mating post and holes argument,” it is respectfully submitted that, for at least these reasons, claim 9 is in condition for allowance.

Second, based on the following “Miller fixed connector argument,” it is respectfully

submitted that the Examiner has not shown that Miller discloses, teaches, or makes obvious the Applicants' fixed connector technology.

Applicants claim "a fixed connector interconnecting between said metrology board and said circuit board for electrical connections therebetween . . ." While Miller may disclose a meter that includes "another board (66) connected to the metrology board (56)" via long bars (63,64,65,66) through the boards, the Examiner has not shown that such "long bars" disclosed in Miller provide anything more than mechanical support. In particular, the Examiner has not shown that the "long bars" provide electrical connections.

Third, claim 9 contains a "circuit board" limitation. Based on the following "circuit board argument" it is respectfully submitted that Miller does not disclose a second "circuit board" as disclosed and claimed by the Applicants.

As noted above, the Examiner rejected claim 9 stating Miller discloses a meter that includes "another board (66) connected to the metrology board (56) through a fixed connector (long bars through the boards (63,64,65,66)." In Miller, component 56 refers to the **meter base**, not a metrology board. [see Miller C7, L42]. Thus, component 56 cannot be a "metrology board" as disclosed and claimed by the Applicants.

If Miller contains a "metrology board" as disclosed and claimed by the Applicants, such a board would apparently be among circuit boards 63, 64, 65 and 66. It is respectfully submitted, however, that no single board, or combination of boards, among boards 63, 64, 65 and 66 have features consistent with the Applicants' metrology board. As stated in Miller:

A plurality of circuit boards 63, 64, 65 and 66, shown in FIG. 2, carry the electronic components of the circuit 43 and 51 and also carry the digital readout display 53 and

optical shield 68 forming part of an optical link associated with the circuit 51 . . . [C7, L54-56]

In addition, if Miller contains a “circuit board” as disclosed and claimed by the Applicants, it would apparently be among boards 63, 64, 65 and 66. However, for the reasons given below, it is respectfully submitted that Miller does not contain such a “circuit board”.

The Applicants disclose a second “circuit board”, generally 162 of Figure 4. The Applicant’s second “circuit board” provides for higher-level functionality in addition to the basic metrology board functionality. [see page 18, L11-12]. It is respectfully submitted that the Examiner has not shown where Miller discloses “another board” that provides for higher functionality in addition to the basic metrology functionality.

It is therefore, respectfully submitted that the use of Miller as a basis for the 35 U.S.C. §103(a) rejection of claim 9 is improper.

As to claims 10, 11, and 61, such claims include a “resilient connectors” limitation, and a “mating post and holes” limitation. For at least these reasons, in light of the “resilient connectors argument” and the “mating post and holes arguments”, it is respectfully submitted that claims 10, 11 and 61 are in condition for allowance.

As to claim 12, based on the “resilient connectors argument”, it is respectfully submitted that, for at least this reason, claim 12 is in condition for allowance.

As to claim 13, the Examiner rejected claims 13 stating: “it appears that the meter in Miller inherently includes a main circuit.”

Claim 13 contains a “resilient connectors” limitation. Based on the “resilient connectors

argument”, it is respectfully submitted that, for at least this reason, claim 13 is in condition for allowance.

In addition, based on the “main circuit argument” presented below, it is respectfully submitted that Miller does not include, teach or make obvious a “main circuit” as disclosed and claimed by the Applicants.

Claim 13 of the Applicants’ claimed technology relates to “a main circuit supported on said baseplate and defining an initial opening therein for calibration access to said metrology board during assembly of said electricity meter.” The Applicants disclose the following regarding the “main circuit” of the claimed technology:

It is another more particular object to provide a meter configuration for various embodiments, using a common baseplate having an initial main circuit opening to permit access for calibration, and which may be completed with a nonremovable plug or clip. [Page 7, Line 29- Page 8, Line 4]

The Applicants further disclose:

For present purposes, Figure 3 illustrates an opening generally 90 which may be formed through the bottom 92 of baseplate 14 into the interior of device 12. During original manufacture and/or assembly of a given embodiment of the subject invention, opening 90 remains unblocked, so as to permit electrical interconnections to be achieved with components otherwise seated inside of a given device 12. Through such electrical connections, the metrology features of device 12 may be calibrated (*i.e.*, initialized for proper accuracy during use in a given environment), the details of which form no particular aspect of the subject invention. [Page 21, Lines 29-16]

Additionally, such main circuit opening is shown in Figure 10 and described in detail on page 36, line 21 through page 37, line 6 of the Applicants’ disclosure.

It is respectfully submitted that the Examiner has not shown where the Miller reference

discloses or makes obvious such a "main circuit". In particular, the Examiner has not shown where Miller discloses or makes obvious a main circuit supported on the meter baseplate. In addition, the Examiner has not shown where the Miller reference discloses a main circuit supported on the meter baseplate with an opening to allow calibration of the meter.

It is therefore, respectfully submitted that the use of Miller as a basis for the 35 U.S.C. §103(a) rejection of claim 13 is improper.

The Examiner rejected claims 42-44, 46, 49, 69-71, 73 and 75-76 stating: "the device in Miller in view of Selph meet the limitations of these instant claims."

First, the Examiner provides no specific rejection for which a response can be given. Second, the Examiner provides no specific evidence or factual support for such a rejection. As the court noted in *In re Warner*:

A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art . . . It [the Patent Office] may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis . . . [W]e may not resolve doubts in favor of the Patent Office determination when there are deficiencies in the record as to the necessary factual bases supporting its legal conclusion of obviousness. *In re Warner*, 379 F.2d 1011, , 154 U.S.P.Q. 173, 177, 178 (C.C.P.A. 1967; emphasis original).

Third, the Examiner's rejection appears to be is improperly based on general conclusions about 'basic knowledge' or 'common sense' to one of ordinary skill in the art, and not founded in concrete evidence of record. [see *In re Zurko*]

It is respectfully submitted, therefore, that such rejection fails to establish a *prima facie* case of obviousness.

In any event, independent claim 42 contains the “resilient connectors” limitation found in independent claim 1. Similarly, independent claim 42 contains the “mating post and holes” limitation found in claim 2. Claims 43, 44, 46 and 49 depend from independent claim 42. For at least these reason, in light of the “resilient connectors argument” and the “mating post and holes argument”, it is respectfully submitted that claims 42-44, 46 and 49 are in condition for allowance.

Finally, independent claim 69 contains the same “resilient connectors” limitation found in independent claim 1 and the same “mating post and holes” limitation found in claim 2. Claims 70, 71, 73, 75 and 76 depend from independent claim 69, thus they contain the same “resilient connectors” and “mating post and holes” limitations. For at least these reason, in light of the “resilient connectors argument” and the “mating post and holes argument”, it is respectfully submitted that claims 69, 70, 71, 73, 75 and 76 are in condition for allowance.

As to claims 58 and 59, such claims contain a “resilient connectors” limitation. For at least this reason, in light of the “resilient connectors argument”, it is respectfully submitted that claims 58 and 59 are in condition for allowance.

**6: 35 U.S.C. §103(a) - Rejections - Claims 18-22, 25, 27-31**

Claims 18-22, 25 and 27-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Selph et al. (4,804,957) in view of Miller (4,368,424) and Johnson (4,298,839).

The Examiner rejected claim 18 using only the Selph reference, and a factually unsupported statement that “it would have been obvious for one of ordinary skill in the art to

provide a snap fit mount for the circuit board . . . .”

First, as to claim 18, such claim includes a “circuit board” limitation and a “fixed connector” limitation (described previously). Based on the “circuit board argument” and the “Miller fixed connector argument” previously presented, it was submitted that that for at least these reasons, claim 18 is in condition for allowance.

Second, as to claim 18, the Examiner rejected such claim using only the Selph reference, and a factually unsupported statement that “it would have been obvious for one of ordinary skill in the art to provide a snap fit mount for the circuit board . . . .” It is respectfully submitted that the Examiner factually unsupported statement alone fails to support a *prima facie case* of obviousness. [see *In re Zurko*]

As to claim 19, the Examiner rejected claim 19 using only the Selph reference and the following factually unsupported statement: “it appears that both the circuit boards inherently receive supply power from a common power supply . . . .”

First, claim 19 contains a “circuit board” limitation, a “fixed connector” limitation and a “mating post and holes” limitation. For at least these reasons, based on the “circuit board argument”, “Miller fixed connector argument” and the “mating post and holes argument,” it is respectfully submitted that claim 19 is in condition for allowance. .

Second, the Examiner’s rejection states that it “appears” the device of Selph would have a common power supply. The statement that something “appears” to be in a reference does not meet such an evidence standard for establishing a *prima facie* case of obviousness. [see In re Zurko]

It is respectfully submitted, therefore, that the Examiner's §103(a) rejection of claim 19 is improper.

As to claims 20, 25, and 27, such claims stand rejected as being unpatentable over Selph in view of Miller. The Examiner's rejection states that it "appears" the device of Miller has resilient connectors for connecting the spades with the metrology board.

First, Applicants' claims 20, 25 and 27 contain a "resilient connector" limitation, a "circuit board" limitation, a "fixed connector" limitation and a "mating post and holes" limitation. For at least these reasons, based on the relevant arguments previously described, it is respectfully submitted that claims 20, 25, and 27 are in condition for allowance.

Second, the Examiner's rejection states that it "appears" the device of Miller has resilient connectors for connecting the spades with the metrology board. The statement that something "appears" to be in a reference does not meet the previously described evidence standard for establishing a *prima facie* case of obviousness.

It is respectfully submitted, therefore, that the Examiner's §103(a) rejection of claims 20, 25 and 27 is improper.

As to claims 21 and 29-30, the Examiner states: "the device of Selph has a hall (sic) effect sensor (84) mounted on a metrology board (68)." Here the Examiner makes no proper rejection grounds to which a response can be given.

In any event, claims 21, 29 and 30 have a "resilient connector" limitation, a "circuit board" limitation, a "fixed connector" limitation and a "mating post and holes" limitation. For at least these reasons, based on the relevant arguments previously presented, it is respectfully

submitted that claims 21, 29, and 30 are in condition for allowance

As to claims 22, the Examiner states: "it appears that the meter of Selph would include a chassis since this is a conventional feature on the energy meter." Here the Examiner makes no rejection to which a response can be given. In addition, the Examiner's rejection states that it "appears" the meter of Selph would include a chassis since this is a conventional feature on the energy meter. The statement that something "appears" to be in a reference does not meet the previously described evidence standard for establishing a *prima facie* case of obviousness. It is respectfully submitted, therefore, that the Examiner's §103(a) rejection of claim 22 is improper.

In addition, claim 22 has a "resilient connector" limitation, a "circuit board" limitation, a "fixed connector" limitation and a "mating post and holes" limitation. For at least these reasons, based on the relevant arguments previously presented, it is respectfully submitted that claim 22 is in condition for allowance

As to claim 28, claim 28 has a "resilient connector" limitation, a "circuit board" limitation, a "fixed connector" limitation and a "mating post and holes" limitation. For at least these reasons, based on the relevant arguments previously presented, it is respectfully submitted that claim 28 is in condition for allowance.

As to claim 31, the Examiner rejected claim 31 stating: "it would have been old and well known to have a chassis and meter display in the device of Selph. The factually unsupported statement that something "would have been old and well known" does not meet the previously described evidence standard for establishing a *prima facie* case of obviousness. Thus, it is respectfully submitted that the Examiner's §103(a) rejection of claim 31 is improper.

In addition, claim 31 has a “resilient connector” limitation, a “circuit board” limitation, a “fixed connector” limitation and a “mating post and holes” limitation. For at least these reasons, based on the relevant arguments previously presented, it is respectfully submitted that claim 31 is in condition for allowance.

**7: 35 U.S.C. §103(a) - Rejections - Claims 1-2 and 6**

Claims 1-2, and 6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Johnson (4,298,839) in view of Miller (4,368,424) and Selph et al. (4,804,957).

The Examiner rejected claims 1 and 6 based on Johnson in view of Miller. The Examiner asserted that: “Johnson does not show electrical connection spades, however, it appears that the device of Johnson inherently has spades and metrology board (16) for mounting components. The statement that something “appears” to be in a reference does not meet the evidence standard stated in *In re Zurko* for establishing a *prima facie* case of obviousness. Thus, it is respectfully submitted that the Examiner’s §103(a) rejection of claim 31 is improper.

The Examiner further opines: “The device of Johnson does not disclose resilient connectors connected to the spades.” However, the Examiner states that Miller discloses connectors (23,24,29,30) “thought” to be resilient connectors. Based on the “resilient connector argument” previously presented, it is respectfully submitted that the Examiner has failed to show that Miller discloses or makes obvious the use of “resilient connectors.” For at least this reason it is respectfully submitted that claims 1 and 6 are in condition for allowance.

The Examiner rejected claim 2 based on Johnson in view of Selph. Claim 2 has a

“resilient connector” limitation and a “mating post and holes” limitation. For at least these reasons, based on the relevant arguments previously presented, it is respectfully submitted that claim is in condition for allowance.

**8: 35 U.S.C. §103(a) - Rejections - Claims 1-2 and 6-7**

Claims 1-2, and 6-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Loy et al. (5,966,010) in view of Miller (4,368,424) and Selph et al. (4,804,957).

As to claims 1 and 6, the Examiner rejected claims 1 and 6 based on Loy et al. in view of Miller. The Examiner stated that: “it appears that the device of Loy et al. inherently has spades (36).” The statement that something “appears” to be in a reference does not meet the previously described evidence standard for establishing a *prima facie* case of obviousness. Thus, it is respectfully submitted that the Examiner’s §103(a) rejection of claims 1 and 6 is improper.

Next the Examiner asserts that “[t]he device of Loy et al. does not disclose resilient connectors connected to the spades.” However, the Examiner states that Miller discloses the resilient connectors (23,24,29,30) feature lacking in the Loy et al. device. The Examiner concludes that it would have been obvious for one of ordinary skill in the art to have spades of Loy et al. connected to resilient connectors as taught by Miller. Based on the “resilient connector argument” previously presented, it is respectfully submitted that the Examiner has failed to show that Miller discloses the use of “resilient connectors.” For at least this reason it is respectfully submitted that claims 1 and 6 are in condition for allowance.

As to claim 2, the Examiner rejected claim 2 based on Loy et al. in view of Selph. The

Examiner stated that: “Selph et al. teach that it would have been well known” to use mating post and holes.

First, claim 2 has a “resilient connectors” limitation. Based on the “resilient connector argument” previously presented, it is respectfully submitted that the Examiner has failed to show that Miller discloses the use of “resilient connectors.” For at least this reason it is respectfully submitted that claim 2 is in condition for allowance.

Second, based on the “mating post and holes argument” previously presented, it is respectfully submitted that the Examiner has failed to show that Selph discloses the use of “mating post and holes.” For at least this reason it is respectfully submitted that claim 2 is in condition for allowance.

**9: 35 U.S.C. §103(a) - Rejections - Claims 34, 38-40, 65, 66-67, 69, 74**

Claims 34, 38-40, 65, 66-67, 69, 74 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Selph et al. (4,804,957) in view of Loy et al. (5,966,010) and Johnson (4,298,839) and Shincovich et al. (5,590,179).

Claims 34, 38, 39, 66, 67 contain a “circuit board” limitation. For at least this reason, based on the “circuit board argument” previously presented, it has been respectfully submitted that such claims are in condition for allowance.

Claims 38, 39, and 67 contain a “fixed connector” limitation. For at least this reason, based on the “Miller fixed connector argument” previously presented, it has been respectfully submitted that such claims are in condition for allowance.

As to Claim 65, the Applicants disclose an antenna that is incorporated within a circuit board (i.e. as part of such circuit board). Loy et al. teach attaching the antenna to the edge of the metrology board. The Loy et al. antenna, (being attached to the side of the metrology board), could be broken off or otherwise damaged during assembly. The Applicants' technology provides an improved antenna, where such antenna is incorporated within a circuit board as described below:

Another present object is improved data transmission features, for example, by avoiding the use of any metal in faceplates or cover elements, to permit meter data to be radiated directly from a printed circuit board without requiring a separate antenna. [page 8, lines 29-34]

As to claim 35, such claim stands rejected based on the following Examiner's factually unsupported statement: "it is well known that there is a power supply for providing power to those boards." The factually unsupported statement that something "is well known" does not meet the evidence standard set by the court in In re Zurko for establishing a *prima facie* case of obviousness. Thus, it is respectfully submitted that the Examiner's §103(a) rejection of claim 35 is improper.

In addition, claim 35 contains a "circuit board" limitation. For at least this reason, based on the "circuit board argument" previously presented, it has been respectfully submitted that claim 35 is in condition for allowance.

As to claim 36 and 41, such claims stand rejected based on the following Examiner's factually unsupported statement: "it would have been well known to connect the metrology board to the circuit board through a fixed connector." The factually unsupported statement that

something "would have been well known" does not appear to meet such an evidence standard set by the court in In re Zurko for establishing a *prima facie* case of obviousness. Thus, it is respectfully submitted that the Examiner's §103(a) rejection of claims 36 and 41 is improper.

In addition, claim 36 contains a "circuit board" limitation. For at least this reason, based on the "circuit board argument" previously presented, it has been respectfully submitted that claim 36 is in condition for allowance.

As to claim 41, claim 41 contains a "resilient connectors" limitation. For at least this reason, based on the "resilient connectors argument" previously presented, it has been respectfully submitted that such claims are in condition for allowance.

As to claims 37 and 40, claim 37 contains a "circuit board" limitation and claim 40 contains a "resilient connectors" limitation. For at least these reasons, based on the "circuit board argument" and the "resilient connectors argument" previously presented, it is respectfully submitted that claims 37 and 41 are in condition for allowance.

As to claim 52, such claim contains a "resilient connectors" limitation, a "circuit board" limitation, a "mating/mounting post and holes" limitation and a "fixed connector" limitation. For at least these reasons, based on the relevant previously presented arguments, it is respectfully submitted that claim 52 is in condition for allowance.

10: 35 U.S.C. §103(a) - Rejections - Claims 47-48

Claims 47-48 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miller (4,368,424) in view of Selph et al. (4,804,957) as applied to claims 42-44 and 46 above, and further in view of Loy et al. (5,966,010) and Johnson (4,298,839).

Claims 47 and 48 contain a “resilient connectors” limitation, a “circuit board” limitation, a “mating/mounting post and holes ” limitation and a “fixed connector” limitation. Based on the “fixed connector argument” previously presented, it has been respectfully submitted that the Examiner has not shown where the cited references teach or make obvious such “fixed connector” limitation. For at least these reasons, based on the relevant previously presented arguments, it is respectfully submitted that claims 47 and 48 are in condition for allowance.

11: 35 U.S.C. §103(a) - Rejections – Claim 52

Claim 52 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Miller (4,368,424) in view of Selph et al. (4,804,957) as applied to claims 42-44 and 46 above, and further in view of Shincovich et al. (5,590,179).

Claim 52 contains a “resilient connectors” limitation, a “circuit board” limitation, a “mating/mounting post and holes ” limitation and a “fixed connector” limitation. For at least these reasons, based on the relevant arguments previously presented, it is respectfully submitted that claim 52 is in condition for allowance.